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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,971	05/25/2001	Jeffrey A. Kleck	7175 US	9219

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EXAMINER
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LUGO, DAVID B

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/865,971

Applicant(s)

KLECK ET AL.

Examiner

David B. Lugo

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 17-21 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 4-10, 12-16 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings were received on 8/30/04. These drawings are acceptable.

### ***Response to Arguments***

2. Applicant's arguments filed 8/30/04 with respect to the rejection of claims 1-3, 11, 17-20 and 23-25 have been fully considered but they are not persuasive.
3. Regarding claim 1, applicant argues that Iijima does not disclose maintaining jitter in UI, where the jitter in UI is the same for the low rate serial stream as for the serial data stream. However, Iijima discloses a mixer for down converting the serial data stream to a low rate serial stream, and it is considered an intrinsic part of the downconversion process for the jitter in UI to be the same for the low rate serial stream as for the serial data stream, whereby the jitter is maintained with the same measurements in UI. For instance, applicant states in page 3, line 24 to page 4, line 4, that by mixing down instead of dividing down, as is normally done in the prior art, the jitter is maintained in UI rather than in seconds. Thus, as Iijima discloses a mixing down process, the jitter is therefore maintained in UI and the jitter in UI is the same for the low rate serial stream as for the serial data stream.
4. Regarding claim 2, applicant argues that Iijima does not recover a low rate clock signal from the low rate serial stream output from the bandpass filter 240. In response, Iijima discloses that signal S6 includes frequency components having detected frequency  $f_D$ , which is related to the reference clock frequency  $f_R$ , and is thus broadly considered a low rate clock due to its direct relationship with the reference clock.

5. Regarding claim 11, applicant submits that an additional reference is necessary to support the rejection. Accordingly, a supporting reference is provided, and the rejection is revised to include the added references.

6. Applicant's arguments, see page 11, filed 8/30/04, with respect to the rejection(s) of claim(s) 21 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a newly found prior art reference.

***Claim Rejections - 35 USC § 102***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-3, 17-19 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Iijima U.S. Patent 5,692,009.

9. Regarding claim 1, Iijima discloses a jitter measuring system where a serial data stream is downconverted to a low rate serial stream via mixer 230 (Fig. 3) and jitter is measured from the low rate serial stream (col. 6, lines 25-53), where the jitter is maintained and the jitter in UI is considered to be the same for the serial data stream and the low rate data stream.

10. Regarding claim 2, Iijima further discloses a filter for generating an output signal S6, considered a low rate clock, from the low rate serial stream, where jitter is measured from the low rate clock signal S6.

11. Regarding claim 3, Iijima further discloses a filter for generating an output signal S6, from the low rate serial stream, where jitter is measured from the output signal S6.

Art Unit: 2637

12. Regarding claim 17, Iijima further discloses a mixer 230 for mixing the input data stream with the signal generated by oscillator 226, and a band pass filter for selecting the low rate serial stream (Fig. 3).

13. Regarding claim 19, the selecting means is a bandpass filter having the mixed serial data streams as an input and the low rate serial stream as an output.

14. Regarding claims 18 and 20, the mixer 230 receives the serial data stream and the oscillator signal as inputs and a spectrum of mixed serial data streams as an output.

15. Regarding claim 23, the frequency of the oscillator signal generated by VCO 226 is tunable.

16. Regarding claims 24 and 25, the center frequency,  $f_0$ , of the selecting means is tunable and set to the detected frequency (col. 4, lines 48-50).

***Claim Rejections - 35 USC § 103***

17. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

18. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima in view of Ishida et al. U.S. Patent 6,598,004 and Ellis, II et al. U.S. Patent 6,127,994.

19. Regarding claim 11, Iijima discloses a jitter measurement system as disclosed above, but does not disclose that the serial stream is digitized to produce a sampled serial stream.

20. However, analog to digital converters are well known in the art for digitizing a signal to enable digital processing. For example, Ishida et al. disclose a jitter measurement apparatus where the input signal is digitized in A/D converter 101 (Fig. 19).

Art Unit: 2637

21. It would have been obvious to one of ordinary skill in the art to digitize the serial data stream and process it digitally because digital circuits are smaller and less costly than analog circuits performing similar functions (see Ellis, II et al., col. 2, lines 1-2).

22. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima in view of Fattouche et al. U.S. Patent 6,330,452.

23. Regarding claim 21, Iijima discloses a jitter measurement system as disclosed above, but does not disclose an anti-aliasing filter for filtering the serial data stream for input to the down converting means.

24. Fattouche et al. disclose a pre-aliasing filter 811 which precedes down converter 804.

25. It would have been obvious to one of ordinary skill in the art to use a filter as disclosed by Fattouche et al. in the system of Iijima in order to remove unwanted sidebands from the signal.

***Allowable Subject Matter***

26. Claims 4-10, 12-16 and 22, as well as multiple dependent claims 11, 17-21 and 23-25 when depending from any one of claims 4-10, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and amended to overcome the objections set forth in this Office action.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Lugo whose telephone number is 571-272-3043. The examiner can normally be reached on M-F; 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dl  
12/28/04

  
**CHAU TRAN**  
**PRIMARY EXAMINER**